



## **Tech TANGENT Solutions Pvt. Ltd.** **TANGENT Technical Solutions**

**Tech TANGENT** established in 2011 and completing 10 years aims for quality engineering design, consultancy services to complex engineering problems in the upstream transportation and other infrastructure projects. Tech Tangent team comprises of experienced individuals, adept at providing effective solutions to wide ranging problems by applying best engineering practices and optimum solutions in terms of time and cost.

**VISION** While the creative thought in developing a structural system is critical to the project, the developed schemes need to be constructible and cost effective as well as accurate. Tech TANGENT provides structural solutions that address the site constraints and provides our client with the most effective solution in terms of economy and constructability. Open to adapting the technological innovations, keeping in view the evolving infrastructural scenario.

**EXPERTISE** in conceptual design at tender stage and detail design of following structures:

- **Bridges**
- **Flyovers, elevated roads and ROB's**
- **Elevated Metros**
- **Cooling Towers (Natural and Induced drafts)**
- **Chimneys**
- **Jetties including planning of equipment and berths**
- **Silos and Cement Plants**
- **Intake Structures**
- **Jump form system, form travelers and other enabling structures**

**Director:**

**Sandeep Pattiwar**  
**M.Tech. & B.E.**

**Experience:**

Co-founder of TANGENT Technical Solutions & Tech TANGENT Solutions Private Limited, Sandeep has over 30 (thirty) years of experience in the field of designing various structures. Sandeep is associated with number of various Codal Committees and has professional memberships - member of IABSE, life member of IRC, life member of ISET and life member of ISWE. He has papers published in various national and international conferences conducted by IABSE and *fib*. He has varied experience in the design from conceptualisation to detailed design and includes bridges, metros, flyovers, grade separators, jetties, chimneys and intake structures. Experience also includes rectification work involving structural investigations and rehabilitations scheme. He has worked in contracting company from 1993 to 2011 designing various structures which helps in arriving solutions with ease in constructability. He has worked in Progressive Constructions at project site from 1991 to 1993, which help in conceiving and detailing the structure considering the aspects of constructability. Sandeep received Bachelor of Engineering in Civil Engineering from the NIT Raipur (Formerly Government Engineering College) in 1987 and post-graduation in Foundation Engineering from MACT Bhopal in 1991.

**Previous Association:**

Gammon India Limited, Mumbai.

Progressive Constructions Company Limited, Hyderabad

**Director:**

**Kiran Madhavi**  
**M.E., B.E. & D.C.E.**

**Experience:**

Co-founder of TANGENT Technical Solutions & Tech TANGENT Solutions Private Limited, Kiran has over 20 (twenty) years of experience in the field of designing various structures. Kiran has professional memberships - member of IE, life member of ACI (Maharashtra Chapter), life member of IIBE, life member of ICI and life member of ICFRC. Kiran has formulated alternate method for the design of wire crated guide bund to change codal provision of IRC:89. He has papers published in various national conferences conducted by IABSE and IRC. He has experience in the design of various structures from conceptualisation to detailed design and includes cooling towers (Natural Draft and Induced Draft), Chimneys, jetties, bridges and flyovers. Kiran received Bachelor of Engineering in Civil from the Sardar Patel College of Engineering, Mumbai in 1998 and post-graduation in Structural Engineering from Veermata Jijabai Technological Institute, Mumbai in 2000. His association with the Contracting company Gammon India Limited developed his competency for understanding the complexity of design issues and evolving appropriate solutions.

**Previous Association:**

Gammon India Limited, Mumbai

**Human Resource:**

Our personnel strength is 28 numbers, which consists of 12 Engineers (with experience ranging upto 30 years), equal number of draftsmen (with experience upto 37 years) and HR & Office staff.

Our dedicated team is capable of handling with ease, diverse nature of civil engineering design matters.

## Experience (Some key projects):

**Jammu Udhampur B-28 Cantilever Bridge, V14 and V15  
Part of four laning of Jammu to Udhampur section from  
Km 15.00 to Km 67.00 of NH-1A**

**Client** Afcons Infrastructure Limited



### **Bridge B28:**

The project consists of viaduct portion of total length of 200m with 140m balanced cantilever bridge and approach spans. Cantilever construction technique was adopted for balanced cantilever bridge with cast-in-situ segments. The main span of balanced cantilever bridge is 70m with two side spans of 35 m each. Other approach spans consist of modules of 20m spans with pre-tensioned girders and RCC deck slab. The overall width is 10.6m which includes clear carriageway width of 7.8m with 1.5 m wide footpath on one side. The foundations are shallow type open foundation.

### **Bridge V14:**

The project consists of viaduct portion of total length of 120m with deck slab continuity. The decking consist of 6-modules of 20m spans with pre-tensioned girders and RCC deck slab. The overall width is 10.25m which includes clear carriageway width of 7.5m with 1.5 m wide footpath on one side. The foundations are shallow type open foundation.

### **Bridge V15:**

The project consists of viaduct portion of total length of 60m with deck slab continuity. The decking consist of 3-modules of 20m spans with pre-tensioned girders and RCC deck slab. The overall width is 10.25m which includes clear carriageway width of 7.5m with 1.5 m wide footpath on one side. The foundations for piers are deep foundation with piles socketed into rock.

## Elevated Road over Barapulla Nalah starting from Sarai Kale Khan to Aurobindo Marg near INA market, New Delhi, Phase II

**Client** Construma Consultancy Pvt. Ltd/PWD, Delhi



The project consists of elevated road with total length of 7.2km includes 6 numbers up and down ramps and provision for bus bay. The project consisting of PSC segments is launched with span by span method of 3 to 4 continuous modules varying for 28.0m to 34.0m standardized spans. This project includes 168m continuous deck segmental cantilever having central span of 74m span and two side spans of 47.0m. It also consists of 65m and 45m span Arch Trusses located above underground metro. Construction stage analysis of the complete continuous modules and cantilever deck was done using the latest MIDAS software analysis package.

#### 4 Lane Majerhat Bridge (ROB) adjacent to Majerhat Railway Station, Kolkata, West Bengal

**Client** S.P. Singla Construction Pvt. Ltd/Public Works Road Directorate, Kolkata (Government of West Bengal)



The project consists of 20m x 4 spans and 5 Spans continuous module of steel composite girders + Main ROB consisting Cable Stay structure of span 60m, 100m, 47.5m + 10.5m x 2 Spans + 20m x 3 continuous module of steel composite girders with total length of 636m including up and down ramps. The project is very crucial and is lifeline of infrastructure has been fast tracked and completed in record time. The project highlight in terms of design is making arrangement of span configuration with the constraint of available space between existing piers, utilities and existing infrastructure. Main pylon pile foundations have been constrained to fit symmetric but different configuration of 1.2m diameter, 45m long piles. Superstructure of cable stay portion have been designed by Wiecon.

**Design of Elevated 2<sup>nd</sup> Carriageway on NH31 in Kishanganj Town, Bihar**

<b>Client</b>	<b>S.P. Singla Construction Pvt. Ltd/ National Highway Authority of India</b>
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The project is construction of 2<sup>nd</sup> carriageway for increasing the capacity for other direction of traffic consists of 113 spans of 18.584m, typically 2 spans continuous with deck slab continuity. The 8.8m wide deck consists of 3 number RCC girders with cast in situ slab on deck sheet. The piers have been kept eccentric to center of carriageway to allow smooth movement of traffic underneath and have been designed appropriately for additional torsion effects. The foundations are pile foundation with one meter dia traversing through liquefaction zone ranging from 3m to 16m. Total Length of elevated road is 3180m including ramp with Reinforced Earth.

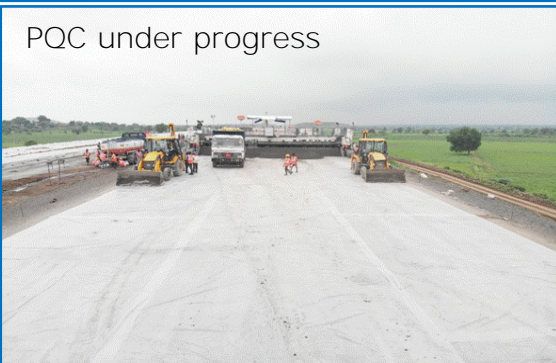


**Proof Checking of Access controlled Nagpur-Mumbai Super Communication Expressway (Maharashtra Samruddhi Mahamarg) in the state of Maharashtra (Package-2) from KM 31.000 to KM 89.413**

**Client Afcons Infrastructure Limited/ Maharashtra State Road Development Corporation Limited**



Bow String Bridge at construction at Ch: 41+460



PQC under progress



Erected Girders of Flyover at KM: 40+980

The project consists of a high-density corridor of 6 lane divided carriageway - full access-controlled expressway with paved shoulders establishing high-speed connectivity between Nagpur and Mumbai in Maharashtra

There are 3 Major Bridges, 24 Minor Bridges, 2 Interchanges, 1 ROB, 8 Flyovers/Viaducts, 19 VUPs, 12CUPs/PUPs, Box Culverts, Pipe Culverts and allied structures. The extent of skew angle of bridges and structures varies up to a maximum of 58 degree. In one of the Viaducts there is central span of 80m length Bow String type Steel Truss with RC Deck Slab. MNB and MJB consist of spans varying from 15.0m to 45.0 m with RCC Girders/PSC Girders and RCC deck slab. The Deck widths are ranging from 11.5m to 17.5m. One of the Interchanges has a rotary of 44m Outer radius with 4 Units of 3span-continuous RC Girders of 20m with Integral piers (Deck width 13.4m). The foundations for bridges and Viaducts are deep foundation with piles/Open foundations.

**Additional Proof Checking of for Viaduct 2 Balance PSC Cantilever superstructure (Construction stage and service stage) Bridge forming the part of Construction of Access Controlled Nagpur-Mumbai Super Communication Expressway.**

<b>Client</b>	<b>Afcons Infrastructure Limited/ Maharashtra State Road Development Corporation Limited</b>
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## Flyover, Grade Separator along with allied works including road work on Spine Road at Kudalwadi Junction, Pune

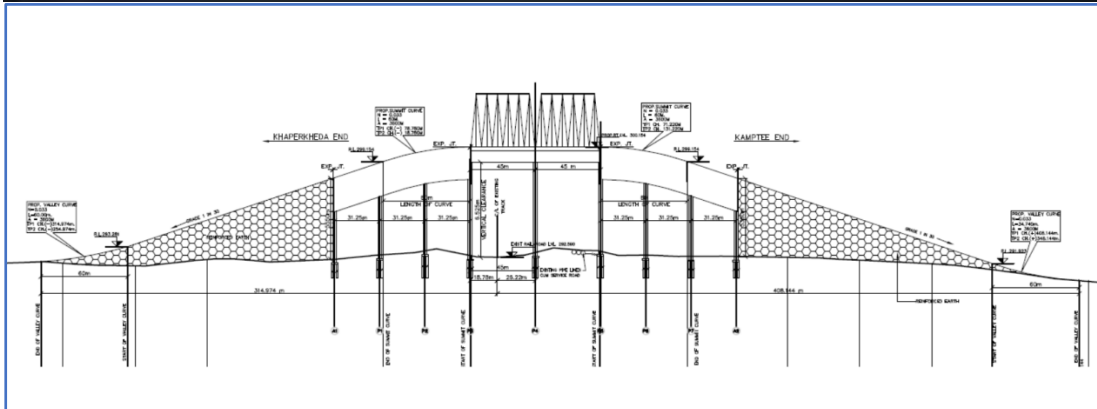
Client | Valecha Engineering Limited



The grade separator is designed for central elevated rotary of area 4250sq.m, with inner radius of 18.5m and outer radius of 41.0m. The rotary is designed with solid slab due to its complex shape and curvature. The connecting elevated road consists of two/three span continuous modules with 30m/40m spans having uniform depth of 2.0m. The structure is integrated with piers resting on pile foundation. The complex analysis has been done using commercial software MIDAS Civil.

## Design and drawings of Road Over Bridge for BG Railway Siding for Khaperkheda Thermal Power Expansion Project

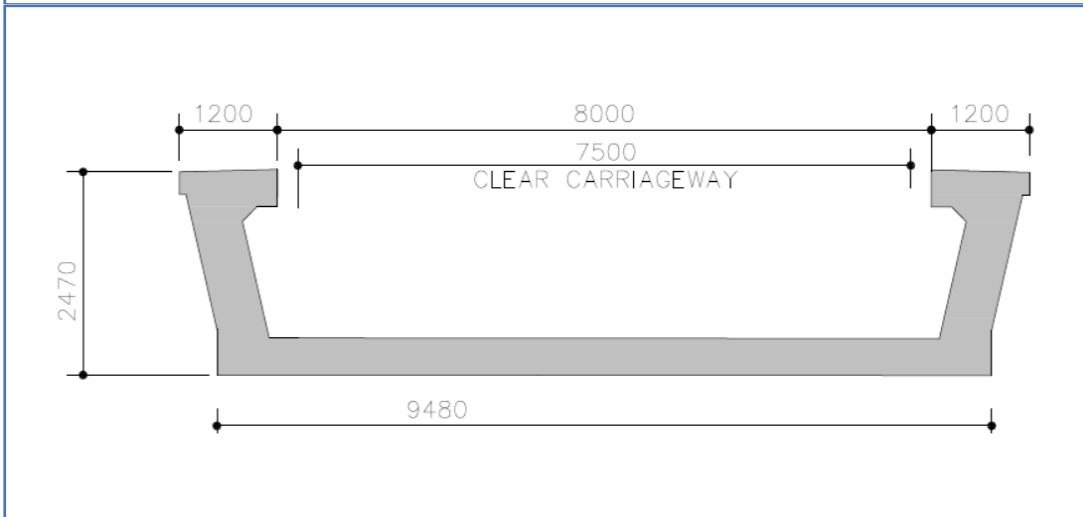
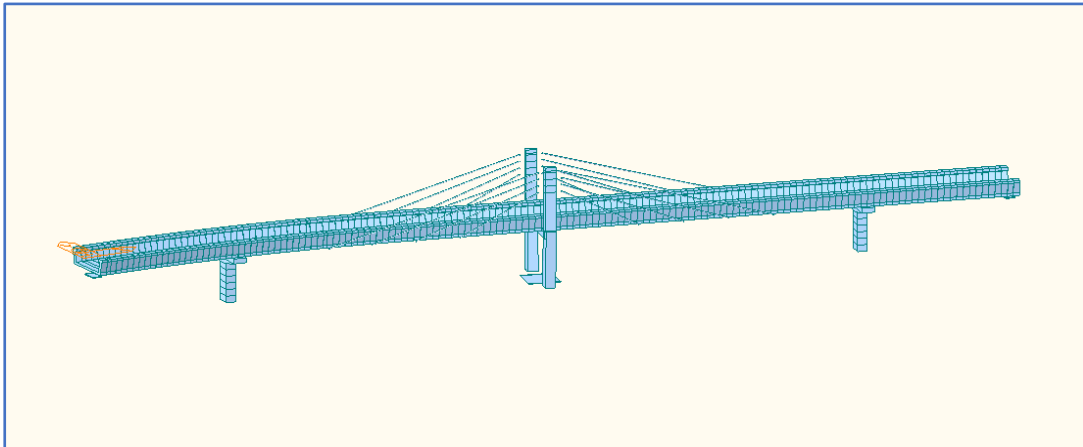
Client Banka Constructions



The Khaperkheda ROB is designed for two lane carriageway consisting of 2 numbers 45m through truss with approach spans of 3 x 31.25m on either side. The total length of ROB including solid ramp is 723m. The approach spans are of PSC continuous Box Girder and supported on POT/PTFE bearings. The foundations are shallow for approach spans and pile foundations for Railway Spans.

**Detailed Engineering Services Dr. Ram Manohar Lohia Path Chakra for Cross Over SWAP 01 (Extradosed Bridge)**

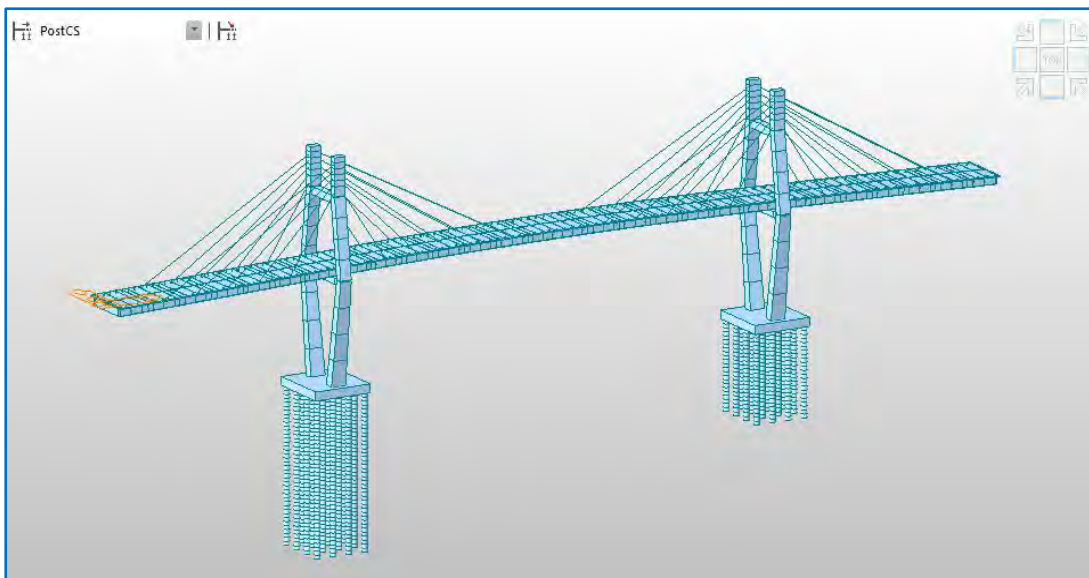
**Client Bihar Rajya Pul Nirman Nigam Limited, Patna**



Indigenous design of extradosed bridge project consisting of a central pylon supporting 50m spans on either side. The total length of bridge is 146.0m consisting of four span continuous structure with span of 23m + 50m + 50m + 23m. The extradosed cable system is two plane with semi fan shape arrangement. The super structure is of U-girder with overall depth of 2.5 m and has minor curve in plan. The scope also includes construction stage analysis and the construction envisaged by supporting staging system. The main pylon has an overall height of 10.0 m from deck. The super structure is integral with pylon and pier and is supported on bearing at abutment location. The complex analysis is being done using commercial software MIDAS Civil.

## Construction stage Analysis of Major Bridge across Bankot Bridge between village Konmandla in Raigarh District and village Veshvi in Ratnagiri District on Major State Highway No. 4

**Client** Supreme Infrastructure India Ltd.



Construction stage analysis of 250m long cable stay bridge with main navigational span of 125.0m and side spans of 62.5m on either side. The main bridge super structure consists of 14.6m wide steel composite girder with clear carriageway width of 7.5m, 1.5 m footpath and 1.55 m wide service walkway on either side. Super structure consists of two main longitudinal girders connected with intermediate cross girders.

Balanced cantilever method of construction is being adopted for erection of super structure. The sub structure consists of cast-in-situ concrete pylons supported on pile foundations. Overall height of main pylon is 57.75. The complex analysis is being done using commercial software MIDAS Civil.

**Cable Stay Bridge across River Chambal on Kota Bypass****Client** Gammon India Ltd.

The client has entrusted the work of analysis and design of Chambal Bridge upto collapse stage particularly pertaining to Chapter 5 of report – Design Issues with reference to Committee of Experts (COE) appointed by MORTH,.

The construction stage analysis for the falling of gantry has been carried out as per AASHTO LRFD combinations, also the impact case is simulated for actual existing condition for dynamic analysis. Structure has been designed as per AASHTO LRFD Bridge specification, 4<sup>th</sup> Edition – 2007; serviceability and strength checks carried out accordingly. The report has been proof checked by IIT, Mumbai.

The complex analysis is being done using commercial software MIDAS Civil.

**Pre-bid DESIGN OF ELEVATED VIADUCT and ELEVATED STATION on Mundka-Bahadurgarh corridor of Phase-III of DELHI MRTS Haryana portion for CC43 and CC-47**

**Client**    **Sadbhav Engineering Ltd.**



*Photographs shown here are for representation purpose only and not the actual photographs of the projects designed.*

Pre-engineering services for CC43 and CC47 for Sadbhav Engineering Ltd was carried with optimization after considering various decking options. Client had secured both the jobs based on estimation provided by Tangent.

We are fully equipped to take up design also for such Metro Structures in-house with renewed resources and infrastructure.



**Design and drawings of Highway Structures of Firozabad (Village Gurha) to Etawah (Village Moonj) Km 53+500 to Km 115+500 Access Controlled Expressway (Green Field) Project in the State of Uttar Pradesh on EPC Basis, Package - II**

**Client** | **Afcons Infrastructure Ltd.**



Total 62.0km stretch of 2 x four lanes separated expressway with 2 ROB's, 2 Major Bridges, 19 Minor Bridges, 11 VUP's, 34 PUP's, Box Culverts, Pipe Culverts and allied structures. The extent of skew angle of bridges and structures varies up to a maximum of 60 degree. One of the ROB's is of steel composite type with span of 40m and other ROB is of 87m span through truss with skew. MNB and MJB consist of spans around 30.0 m with PSC girder and RCC deck slab. The foundations for bridges and ROB's are deep foundation with piles. Entire design has been done as per Limit State Method.

<b>Design and drawings of Jump-form system for NDCT</b>	
<b>Client</b>	<b>L&amp;T</b>



Client: Larsen & Toubro Constructions

Design and Engineering of Jump Form System for 140 dia/180m height natural draft cooling tower at Kakrapar.

**Some other projects in this category are:**

- **Reaction frame for TBM:** Structural frame- work for Erection & commissioning of 900 TBM machine for Patel Engineering Works.
- **Metro Supporting system Proof Checking:** Work done for checking and approval of supporting system for Metro work in Mumbai for Simplex Infrastructure.
- **Metro Supporting system Proof Checking:** Proof checking of temporary work for Nagpur Metro between Gaddigodan to Sitabuldi – Reach – 2 for Afcons.
- **Enabling for Mucking systems:** Work done for Structural frame- work of Mucking System over vertical shaft of Tunnels for water supply works near Baramati for Soma Enterprises.

## Chimneys:

### Angul Chimney



Client: Structus Consultants for Gammon India Ltd.

275m high twin steel lined flue RCC Chimney with annular foundation. Diameter of flue is 7m with internal shell diameter at top is 18.3m.

#### **Some other projects in this category are (As personal capacity of directors):**

- **Krishnapattanam Chimney:** 275m high double flue steel lined Chimney for 2x800 MW STPP at Krishnapattanam, Andhra Pradesh for APPDCL.
- **Raichur Chimney:** 220m high brick lined Chimney for 1x250 MW TPP at Raichur, Karnataka for KPCL.
- **Bhusawal Chimney:** 275m high double flue steel lined Chimney for 2x500 MW TPP at Bhusawal, Maharashtra for MAHAGENCO.
- **Tuticorin Chimney:** 275m high double flue steel lined Chimney for 2x600 MW TPP at Tuticorin, Tamlinadu for Coastal Energen.
- **Kawai Chimney:** 275m high double flue steel lined Chimney for 2x660 MW TPP at Kawai, Rajasthan, for Adani Power Rajasthan.
- **Malwa Chimney:** 275m high double flue steel lined Chimney for 2x600 MW TPP at Malwa, Madhya Pradesh MPPGCL.
- **Tiroda Chimney:** 275m high Triple flue steel lined Chimney for 3x660 MW TPP at Tiroda, Maharashtra for Adani Power Maharashtra.

**2 Numbers - 172.5m high NDCT for 2x800 MW STPP in Andhra Pradesh for APPDCL with base diameter 138m**

**Client**    **Gammon India Ltd.**



The NDCT is designed in detail as per tender stipulation after post award stage to find the variation in quantity due to modified technical conditions. The variation in quantity has been evaluated for all the elements and design, drawings and BOQ have been prepared. The total saving in concrete is worked out 5% and for reinforcement 8% despite the fact that raker piles were considered in tender condition vis-à-vis vertical piles in revised design. This significant saving has helped our client to settle extra claim on account of additional provisions in post bid design stage.

## Major Projects:

Following are our select list of major projects

Sr. No.	Project Name	Client/Owner	Scope	Remarks
1	BRBCL Nabinagar Thermal Power Project (4x240MW)	ERA/RDA/NTPC	Approach bridge & River protection work, de-silting basin, forebay, energy dissipation tank, weir, silt flushing pump house & outfall structure, MWPH, Switchgear & control room, transformer foundations.	Completed
2	Kopili Bridge in Assam	GIFFORD / NHAI	Verification/re-design of foundation and superstructure for Kopili bridge due to change in alignment and span. Total bridge length of 140.0m with three simply supported spans. Consist of box girder supported on pier and well foundation.	Completed
3	Design of Superstructure of Transport Chauraha, Jaipur, Rajasthan	GIFFORD/ Jaipur Development Authority	Covered underpass containing composite steel superstructure for width 200 m spanning 20.3m.	Completed
4	Design Consultancy Services for Pimpri Chinchwad Flyover	B&S Engineering/ Pimpri Chinchwad Municipal Corpn.	2/3 span continuous PSC box girder, with integral pier. Single cell PSC box curved in plan for two separate carriageways with approx. length 490.0m each and width 8.5m.	Completed
5	Design Consultancy for Khaperkheda ROB	Banka Constructions/ PWD	3-span continuous PSC box girder for viaduct portion and 45m steel truss superstructure for ROB PORTION. Circular pier with open foundation for viaduct and pile foundation for ROB portion.	Completed
6	Design Consultancy for ROB at Sonbarsa, Bihar	GIFFORD / NHAI	Two skew bridges for ROB with angle of skew $43^{\circ}$ & $23^{\circ}$ . Steel composite superstructure with pile foundation.	Completed

7	Design & Drawings of foundation for Transmission Tower, J&K	A2Z/CEB	Design of pile foundation for dead end transmission tower 54.0 m high for Wagoora-Budgam-Zainkote transmission line.	Completed
8	Design Services for Bridges in Jammu-Udhampur (J&K) for project JUHP	AFCONS/CES/NHAI	Detail design of viaduct structures with pretension girders and open/pile foundation. Detail design of continuous cantilever structure with total length of 140.0m.	Completed
9	Design of Grade Separators at Kudalwadi, Pune	VALECHA/PCNTDA	Detailed design of grade separators including rotary structure and consists of prestressed structure integral with piers for viaduct portion	Completed
10	NDCT @ Kakrapar for NPCIL	L&T/NPCIL	Design of jump form system for construction of 156m high, 4 nos. NDCT at Kakrapar Atomic Power Station	Completed
11	Design & Drawings of Bridges for Panvel Indapur Section of NH 17, Across Kundalika River	CES / NHAI	Two major bridges and three minor bridges with RCC superstructure. PCC/RCC abutment,	Completed
12	Design of Special Bearings for Mumbai Metro One Project	TRICON/SEW/RELIANCE	Design and drawing of special type and restraint neoprene bearing for bearing under extra-dosed bridge being constructed for Mumbai Metro One.	Completed
13	Pre-bid Consultancy Services for EPC Package of NDCTs for KAPP-3&4	HCC/NPCIL	Tender stage design of 4 Nos. NDCTs and Cold Water Pump House for KAPP Units 3&4.	Completed
14	Enabling Design of Launching Truss	SUPRA Constructor	Enabling design for launching truss for 30.0m in simply supported I-girders.	Completed
15	Krishnapatnam NDCT – Analysis & Design As per Tender Proposal	GAMMON	Detail design to verify the tender stage design proposal for 2X500 MW 172.5m high NDCT.	Completed
16	Design of Elevated Road over Barapullah Nallah starting from Sarai Kale Khan to Aurobindo Marg Phase-II	Construma/ PWD Delhi	Detailed conceptualization of scheme, planning and design of 6 km elevated road including 6 ramps and special span of Balanced Cantilever crossing above Railway and Ring Road.	Ongoing

17	Cable Stay Bridge over Bhim Goda Bridge Barrage	Construma/ERA Infrastructure	Detailed design of 130 m span cable stay structure with central pylon supported on well foundation and composite superstructure	Ongoing
18	Diaphragm Wall for proposed commercial building 'BRIGADE BROADWAY', Bangalore	Best Geotechnics Pvt. Ltd. & SSV Enterprises for Brigade Enterprises Ltd.	Structural design of 15.5 m diaphragm wall with 10.5 m excavated height and supported by prestressed anchors.	Completed
19	Design Services for Bridge on River Sopara, Naigaon, Mumbai	I IPL/Vasai Virar City Municipal Corporation	Detail design/drawings for Bow string Arch Bridge.	Completed
20	Pre-bid Consultancy Services for 85m high Dharani Chimney.	ASTHA Infra Engg. Pvt. Ltd/ Dharani Sugar & Chemicals Ltd.	Tender stage design of 85m high brick flue chimney.	Completed
21	Pre-bid Consultancy Services for 4Nos. IDCT for Lara STPP, Stage-I (2x800 MW).	GEA Cooling Tower Technologies (India) Ltd./ NTPC	Tender stage design of 4 Nos. (Each 16 cells) IDCTs.	Completed
22	Prebid Consultancy for 4-laning of NH-37A including Brahmaputra Bridge	AFCONS/NHAI	Tender stage design of 17 KM stretch of Highway & 3.015 KM long Cantilever bridge	Completed
23	Prebid Consultancy for Motagaon-Mankoli Bridge	MONARCH / PWD	DPR Stage design of 980 M long Bridge	Completed DPR design with options of extradosed and Cable-stay proposal submitted to client
24	Bankot Cable-stayed Bridge	SUPREME Infrastructure	Construction stage analysis of cable stayed bridge.	Ongoing
25	Bagchhal Bridge	GAMMON India Ltd	Complete construction & service stage analysis and design of bridge including salvage of foundation at pier P2	Ongoing
26	Agra-Lucknow access controlled expressway Pkg-II	AFCONS Infrastructure Ltd	Design of pipe culvert, box culvert, Minor Bridge, Major Bridge & ROB for the 8-lane expressway	Completed
27	Nagpur Metro	AFCONS Infrastructure Ltd	Proof-checking of temporary works, design & schemes for launching girder, shuttering, casting bed foundations, stacking bed & other elements	Completed

28	Nagpur Mumbai Super-communication Expressway (Samruddhi), Pkg-2	AFCONS Infrastructure Ltd	Proof Checking of 3 Major Bridges, 24 Minor Bridges, 2 Interchanges, 1 ROB, 8 Flyovers/Viaducts, 19 VUPs, 12CUPs/ PUPs, Box Culverts, Pipe Culverts and allied structures, including Highway part	Ongoing
29	Kanpur Metro	AFCONS Infrastructure Ltd	Proof checking for all enabling (temporary) structure for viaduct (structure- pre tensioned U girder) and station like - pre-tensioned bed for U girder, precast Pier cap & casting bed design for precast element for viaduct & station including erection scheme	Ongoing
30	Mumbai Metro	AFCONS Infrastructure Ltd	Proof checking for all enabling (temporary) structure for viaduct (structure- pre tensioned U girder, Box girder segmental) and station like - pre-tensioned bed for U girder, precast Pier cap & casting bed design for all precast element for viaduct & station including erection scheme. Also casting scheme for precast segment and their launching scheme including erection scheme for ROB span	Ongoing
31	Nagpur Mumbai Super-communication Expressway (Samruddhi)-Pkg-14, Viaduct-2	AFCONS Infrastructure Ltd	Proof checking consultancy for Viaduct 02 Balance Cantilever/PSC or RCC type superstructure (Construction stage and service stage) Bridge forming the part of Construction of Access Controlled Nagpur-Mumbai Super Communication Expressway. The project consists of viaduct 02 portion of total length 1195 m with 53.75m X 1 <b>No's + 98m X 5 No's + 53.75m x 2 No's + 98m x 5 No's + 53.75m x 1 No's spans for Left and Right</b> carriageway. The overall width of bridge is 17.5m. Substructure consists of 2 Plate piers. The foundations are shallow type open foundation.	Ongoing
32	Access controlled Greenfield Highway in Rajasthan	NKC Projects Pvt Ltd	Review of Design and Drawings	Ongoing
33	Delhi Metro	Sam India Builtwell Pvt Ltd	Proof checking for scheme and design for 150 MT U girder Launching girder.	Ongoing



34	Four Laning of Takoli-Kullu Itarsi Section of NH-21 (Package-III, from Km 242.000 to Km 272.000) under NHDP Phase-IVB on EPC Mode in the State of Himachal Pradesh	NKC Projects Pvt Ltd (NHAI Project)	Complete Designs, including construction stage analysis and precamber control & Drawings of Major Bridge (Bajora) @ Km 249+435 for 12.5m deck width of LHS and RHS supporting on Well Foundations P3 & P4 (Span configuration consist of simply supported span of 34m and continuous span of 45m+72m+55m by cantilever method)	Ongoing
35	Four Laning of Takoli-Kullu Itarsi Section of NH-21 (Package-III, from Km 242.000 to Km 272.000) under NHDP Phase-IVB on EPC Mode in the State of Himachal Pradesh	NKC Projects Pvt Ltd (NHAI Project)	Complete Designs, including construction stage analysis and precamber control & Drawings of Major Bridge (Jia) @ Km 255+230 Span configuration consist of continuous span of 52.5m+95m+52.5m by cantilever method resting on well foundation with deck width o 12.5m.	Ongoing
36	Balance work for Four Laning of Obedullaganj to Itarsi Section of NH-69 from km. 2.800 to km. 8.300 and from km. 20.700 to km. 63.000 (Design Length 46.3 km.), excluding km. 8.300 to 20.700 Wild Life Area, in the state of Madhya Pradesh	NKC Projects Pvt Ltd (NHAI Project)	Detailed Designs & Drawings of Narmada Bridge (Ch. 34+400) which includes the Submission, Approval & Review of Designs & Drawings from Design Director, Proof Consultant, Safety <b>Consultant &amp; Authority's</b> Engineer.	Nearing completion
37	Construction of 2nd Flyover (LCW) parallel to existing Flyover in Kishanganj town starting from km. 472.300 to km. 475.480 of NH-31 (Existing NH) (Total Length - 3.180km.) in the state of Bihar on EPC Mode	S.P. Singla Constructions Pvt Ltd. (NHAI Project)	Detailed Design/Drawings Consultancy Services For Highway, Structures and other components, carry out detailed design for all bridges/Grade Separator between Ch.472+300 to 475+480 including culverts and other structures	Ongoing
38	Reconstruction of 4 Lane Majerhat Bridge (ROB) adjacent to Majerhat Railway Station at 5.8 Km on Diamond Harbour Road (NH-117), Kolkata, West Bengal	S.P. Singla Constructions Pvt Ltd. (MORTH)	Design consultancy service for Structures, Highway & Misc. items, to carry out post bid detailed design for all bridges/Grade Separator between km 5.80 to km 6.43 including viaduct and other structures of Four-Lanning of the Project Highway.	Completed

## Panel of Experts/Association:

We have association with the experts in their respective field and necessary guidance/consultancy will be sought for special situation on job to job basis.



### **Dr. Kamal Poddar**

**B.Tech., M.Tech., Ph.D.**

Dr. Kamal is a professor in the department of Aerospace Engineering IIT, Kanpur. He is actively involved in areas of experimental aerodynamics and wind engineering.

### **Dr. Mahendra Singh**

**B.E.(Civil), M. Tech., Ph.D.**

Dr. Mahendra and Dr. Narendra are professors of Geo-technical in Civil Engineering Department, IIT Roorkee. They have over twenty years of experience in solving geotechnical engineering problems related to foundations of bridges and buildings, stability of rock and soil slopes, stability analysis of underground openings and ground improvement engineering.

### **Dr. Narendra K. Samadhiya**

**B.E.(Civil), M. Tech., Ph.D.**

### **Mr. Richard J. DesJardins**

**DesJardins Cooling Tower Consulting Services, USA**

Mr. Richard has over fifty-two years' experience in the field of tower sizing, design of cooling tower and evaporative cooling sections, thermal performance evaluation, Performance testing of cooling towers, psychrometric and water conservation analysis and design.

### **Mr. Sunil Bhide**

**SANROMA**

Mr. Sunil has over 36 years of experience in the field of enabling and systems designing. He is renowned in his field including design of jump form, slip form, launchers for simply supported spans, bridge builders and enabling design for river and offshore works.

## Contact

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